

EARTH ANCHORS DESIGN FOR RETAINING WALL

13 POWELL PLACE, PAKENHAM, VIC 3810

Sheet Index

Layout ID	Layout Name
S000	Title Sheet
S001	General Notes-1
S002	General Notes-2
S101	Earth Anchors Design for Retaining Wall
S111	Earth Anchors Section Details

REV	STATUS	DESIGNED	CHECKED	DATE	 Barrason's Group E: info@barrasons.com.au T: (03) 5940 4999 W: www.barrasons.com.au	TITLE: TITLE SHEET	PROJECT ADDRESS: 13 POWELL PLACE, PAKENHAM, VIC 3810	JOB No: 25030303	DESIGNED: A.A.	DWG No:	S000	FOR CONSTRUCTION
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GENERAL:

- G1. ALL WORK AND MATERIALS TO CONFORM TO THE DRAWINGS, THE SPECIFICATION, AND CURRENT BUILDING CODE OF AUSTRALIA AND AUSTRALIAN STANDARDS.
- G2. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE ARCHITECTURAL AND OTHER CONSULTANTS' DRAWINGS, THE SPECIFICATION AND ALL OTHER WRITTEN INSTRUCTIONS ISSUED DURING THE CONSTRUCTION.
- G3. THE BUILDER SHALL CONFIRM ALL RELEVANT DIMENSIONS BEFORE COMMENCING CONSTRUCTION AND/OR FABRICATION. DO NOT SCALE STRUCTURAL DRAWINGS.
- G4. ALL DISCREPANCIES SHALL BE REFERRED TO THE ARCHITECT/ENGINEER FOR RESOLUTION BEFORE PROCEEDING WITH THE WORKS.
- G5. ALL DIMENSIONS ARE IN MILLIMETRES U.N.O. ALL LEVELS ARE EXPRESSED IN METRES.
- G6. SUBSTITUTIONS SHALL BE MADE WITH THE ENGINEER'S WRITTEN APPROVAL, BUT NOT AN AUTHORISATION FOR AN EXTRA. ANY CLAIM FOR AN EXTRA MUST BE APPROVED BY THE ENGINEER, ARCHITECT AND/OR OWNER BEFORE COMMENCEMENT OF THE WORK.
- G7. THE BUILDER SHALL MAINTAIN THE WORKS IN A SAFE, STABLE CONDITION AND ENSURE THAT NO PART IS OVER-STRESSED DURING CONSTRUCTION.
- G8. ALL PROPS AND FORMWORK TO A BEAM OR SLAB SHALL BE REMOVED BEFORE CONSTRUCTING MASONRY WORKS.
- G9. ALL NON-LOADBEARING WALLS SHALL BE CONSTRUCTED 20mm CLEAR OF SLAB AND BEAM SOFFITS U.N.O.
- G10.NO HOLES, RECESSES OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE WITHOUT THE ENGINEERS WRITTEN APPROVAL
- G11.THE ENGINEER ACCEPTS NO RESPONSIBILITY FOR THE THE WORKS CARRIED OUT ON SITE UNLESS INSPECTED AND APPROVED IN WRITING BY THE ENGINEER.
- G12.THE STRUCTURAL WORKS HAVE BEEN DESIGNED FOR THE FOLLOWING LIVE LOADS:

AS PER AS1170	
LOCATION	LIVE LOAD (kPa)
ROOF	0.25
FLOOR/DECK	1.5/2.0

WIND CLASSIFICATION N2
WIND DESIGN LOAD PRESSURE 0.92 kPa

- G13.WHERE ADDITIONAL CONSTRUCTION LOADS EXCEED THE AN ALLOWABLE LIVE LOAD, THE BUILDER TO NOTIFIED THIS OFFICE BEFORE COMENCING WORKS.
- G14.BEFORE STARTING WORKS ON SITE, IT IS THE BUILDER'S RESPONSIBILITY TO ENSURE THE EXISTING UNDERGROUND SERVICES WILL NOT AFFECT THE WORKS. THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY FOR ANY SITE DESCREPANCIES TO THE DRAWINGS. EXISTING LEVELS ARE TO BE VERIFIED ON SITE.
- G15.ALL PROPRIETARY PRODUCTS ARE TO BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
- G16.ALL REQUIRED TESTS AND/OR SITE INSPECTION ARE TO THE CONTRACTORS EXPENSE.

FOOTINGS AND SLAB ON GROUND

- F1. ALL WORK AND MATERIALS TO COMPLY WITH AS2870.
- F2. ALL FOOTINGS SHALL BE FOUNDED ON ORIGINAL UNDISTURBED GROUND.
PRIOR TO COMMENCING WORK, THE BUILDER IS TO FAMILIARISE THE CONTENT OF THE SOIL REPORT PREPARED BY: SOIL TEST EXPRESS
REPORT No.: 20252 DATED: 18/06/2025
FOOTING DEPTHS SPECIFIED ON THE DRAWINGS ARE MINIMUM DIMENSIONS ONLY. IF NOT SHOWN, REFER TO THE SOIL REPORT FOR THE REQUIRED FOUNDING DEPTH.
- F3. THE SITE HAS BEEN CLASSIFIED AS CLASS 'M' IN ACCORDANCE WITH AS 2870.
- F4. STRIP / PAD FOOTINGS ARE TO BE FOUNDED ON ORIGINAL UNDISTURBED GROUND WITH AN ALLOWABLE BEARING CAPACITY OF 120kPa.
- F5. EDGE BEAMS AND LOAD BEARING RIBS SHALL BE FOUNDED ON UNDISTURBED GROUND WITH AN ALLOWABLE BEARING CAPACITY OF 120kPa. THE INTERNAL SLAB & NON-LOAD BEARING RIBS SHALL BE FOUNDED WITH MINIMUM BEARING CAPACITY OF 120 kPa.

- F6. ALL ORGANIC MATERIAL SHALL BE REMOVED FROM THE AREA BENEATH THE SLABS ON GROUND. THE GROUND SHALL BE PROOF ROLLED WITH A 3 TONNE ROLLER PRIOR TO PLACING COMPACTED FILL.
ANY SOFT SPOTS SHALL BE DUG OUT AND REPLACED WITH COMPACTED CRUSHED ROCK OR 15MPa BLINDING CONCRETE. IN ACCORDANCE WITH AS2870 AND AS3798.
- F7. UNLESS OTHERWISE SPECIFIED IN THE SOIL REPORT, FILLING USED IN THE CONSTRUCTION OF THE SLAB EXCEPT WHERE THE SLAB IS SUSPENDED SHALL CONSIST OF CONTROLLED FILL OR ROLLED FILL AS FOLLOWS:
a. CONTROLLED FILL IS MATERIAL THAT HAS BEEN PLACED AND COMPACTED IN LAYERS BY COMPACTION EQUIPMENT WITHIN DEFINED DENSITY REQUIREMENT. EXCEPT AS PROVIDED BELOW, CONTROLLED FILL SHALL BE PLACED IN ACCORDANCE WITH AS 3798.
SAND FILL UP TO 0.8m DEEP, WELL COMPACTED IN NOT MORE THAN 0.3m THICK LAYERS BY A VIBRATING PLATE OR VIBRATING ROLLER, SHALL BE DEEMED TO COMPLY WITH THIS REQUIREMENT. A SATISFACTORY TEST FOR SAND FILL NOT CONTAINING GRAVEL SIZED MATERIAL IS THE ACHIEVEMENT OF A BLOW COUNT OF 7 OR MORE PER 0.3m USING THE PENETROMETER TEST DESCRIBED IN AS 1289.6.3.3.
NON-SAND FILL UP TO 0.4m DEEP, WELL COMPACTED IN NOT MORE THAN 0.15m LAYERS BY A MECHANICAL ROLLER SHALL BE DEEMED TO COMPLY WITH THIS REQUIREMENT. CLAY FILL SHALL BE MOIST DURING COMPACTION.
b. ROLLED FILL CONSISTS OF MATERIAL COMPACTED IN LAYERS BY REPEATED ROLLING WITH AN EXCAVATOR. ROLLED FILL SHALL NOT EXCEED 0.6m COMPACTED IN LAYERS NOT MORE THAN 0.3m THICK FOR SAND OR 0.3m COMPACTED IN LAYERS NOT MORE THAN 0.15m THICK FOR OTHER MATERIAL
c. THE EXTENT OF CONTROLLED FILL AND ROLLED FILL REQUIRED SHALL BE DETERMINED ON SITE IN ACCORDANCE WITH SECTION 6 OF AS2870 AND SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR & BUILDER.
- F8. WHERE DEPTH OF CONTROLLED FILL IS THICKER THAN THAT SPECIFIED ABOVE, FILL MATERIAL SHALL BE SPREAD AND COMPACTED IN UNIFORM LAYERS NOT EXCEEDING 0.15m THICK. TOP SURFACE LAYER SHALL BE COMPACTED TO MINIMUM 98% STANDARD DRY DENSITY DETERMINED BY METHODS IN ACCORDANCE WITH AS1289. LOWER LAYERS SHALL BE COMPACTED TO 95% STANDARD DRY DENSITY. THE MOISTURE CONTENT OF THE FILL MATERIAL SHALL BE ADJUSTED TO WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT DURING COMPACTION TO ENSURE THAT THE SPECIFIED COMPACTION IS OBTAINED. COMPACTION TESTS SHALL BE CARRIED OUT AT A RATE OF ONE TEST PER LAYER PER 100 SQUARE METRES OF FILL. TESTS ARE TO BE CARRIED OUT BY INDEPENDENT NATA REGISTERED LABORATORIES. SUBMIT REPORT TO THIS OFFICE FOR APPROVAL.
- F9. FOUNDATIONS SHALL BE INSPECTED AND APPROVED BY THE ENGINEER OR BUILDING INSPECTOR BEFORE LAYING MEMBRANES AND POURING CONCRETE. IF AN UNUSUAL GROUND CONDITION IS ENCOUNTERED DURING THE SITE EXCAVATION, REPORT TO THIS OFFICE FOR RESOLUTION.
- F10. NO EXCAVATION IS TO BE TAKEN BELOW THE BASE OF ADJACENT / EXISTING FOOTINGS. IF IT IS UNAVOIDABLE, FOR THE CASE OF NEW FOOTINGS, BLINDING CONCRETE GRADE 15MPa SHALL BE PROVIDED BENEATH THE NEW FOOTING AND FOUNDING BELOW ANGLE OF REPOSE. FOR THE CASE OF EXISTING FOOTINGS, UNDERPINNING IS REQUIRED. REFER TO THIS OFFICE FOR DETAILS.
- F11. ALL FOUNDATIONS ARE TO BE FREE OF WATER AND LOOSE MATERIAL
- F12. OVER EXCAVATION IS TO BE FILLED TO THE UNDERSIDE OF FOOTINGS WITH 15MPa BLINDING CONCRETE
- F13. TERMITE PROTECTION SHALL BE PROVIDED AS REQUIRED BY AUSTRALIAN STANDARD AND THE LOCAL STATUTORY AUTHORITY.
- F14. A 0.2mm POLYTHENE MEMBRANE SHALL BE CONTINUOUS UNDER SLAB AND RIBS LAPPED 200mm MINIMUM WHERE REQUIRED AND TAPED AT ALL SERVICE PENETRATIONS, LAPS AND PUNCTURES. THE MEMBRANE IS TO EXTEND UNDER AND TO THE SIDES OF SLABS, BEAMS AND THICKENINGS.
- F15. EXCAVATIONS NEAR THE BUILDING EDGE SHALL BE BACKFILLED IN SUCH A MANNER TO PREVENT READY ACCESS OF WATER TO THE FOUNDATIONS

- F16. SYMBOLS ON THE DRAWING FOR REINFORCEMENT ARE AS FOLLOWS :
- Y GRADE 400MPa DEFORMED REINFORCING BARS TO AS 1302.
- N GRADE 500MPa DEFORMED REINFORCING BARS, DUCTILITY CLASS N TO AS 4671
- R GRADE 250MPa PLAIN REINFORCING BARS TO AS 1302
- TM HARD-DRAWN STEEL TRENCH MESH, GRADE 500 DUCTILITY CLASS L TO AS 4671
- RL RECTANGULAR RIB MESH GRADE 500 DUCTILITY CLASS L TO AS 4671
- SL SQUARE RIB MESH GRADE 500 DUCTILITY CLASS L TO AS 4671
- F17. FABRIC SHALL BE PLACED NEAR THE TOP OF THE SLAB AND SHALL HAVE A NOMINAL COVER OF 25mm U.N.O.
- F18. REINFORCEMENT FABRIC SHALL BE LAPPED SO THAT EACH PAIR OF TRANSVERSE WIRES AT THE EDGE OF ONE SHEET OVERLAPS EACH CORRESPONDING PAIR OF TRANSVERSE WIRES OF THE SHEET BEING LAPPED. REINFORCEMENT SHALL BE SUPPORTED IN POSITION PRIOR TO CONCRETING COMMENCING ON DENSE PRECAST CONCRETE SPACER BLOCKS OR BAR CHAIRS ON GALVANIZED STEEL DISHES (EITHER OF WHICH MUST NOT DAMAGE THE MEMBRANE) AT 900mm MAXIMUM CENTRES EACH WAY TRAMPING IN FABRIC IS NOT PERMITTED
- F19 BEAM AND STRIP FOOTING REINFORCEMENT SHALL HAVE A NOMINAL COVER OF 50mm.
- F20. TRENCH MESH SHALL BE LAID CONTINUOUSLY AND SHALL BE SPLICED WHERE NECESSARY WITH A MINIMUM LAP OF 500mm
- F21. TRENCH MESH SHALL BE OVERLAPPED BY THE WIDTH OF FABRIC AT CORNERS AND INTERSECTIONS. THE ENDS OF TRENCH MESH SHALL TERMINATE WITH A CROSSBAR.
- F22. PROVIDE 2N12 x 1200 BARS OR EQUIVALENT TRENCH MESH x 2000 LONG DIAGONALLY ACROSS RE-ENTRANT CORNERS OF SLAB AND TIED TO UNDERSIDE OF TOP FABRIC.
- F23. CONCRETE STRENGTH IS TO BE f_c = 25MPa, WITH 65 MAX. SLUMP, COMPACTED USING MECHANICAL VIBRATION. SLAB & RIBS ARE TO BE CAST IN ONE CONTINUOUS POUR AND THE SLAB IS TO BE STEEL-FLOAT FINISHED
- F24. ALL CONCRETE IS TO BE CONTINUOUSLY WET-CURED FOR 7 DAYS.
- F25. THE GROUND SURROUNDING SLABS SHALL HAVE THE SURFACE AT LEAST 150mm LOWER THAN THE SLAB AND BE SLOPED AWAY FROM THE SLAB EDGE SO THAT WATER WILL DISCHARGE TO SUITABLE DRAINAGE POINTS AND NOT FLOOD THE SLAB SURFACE.
- F26. HOT WATER HEATING PIPES MAY BE EMBEDDED IN THE SLAB PROVIDED THAT THE SLAB THICKNESS IS INCREASED BY 25mm AND LAID ON ADDITIONAL SL52 MESH.

CONCRETE:

- C1 ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH AS3600.
- C2 UNLESS OTHERWISE SHOWN THE MINIMUM 28 DAY COMPRESSIVE STRENGTH OF CONCRETE SHALL BE AS FOLLOWS:
- | ELEMENT | CONC. STRENGTH (f _c) MPa | SLUMP mm |
|-------------------------|--------------------------------------|----------|
| FOOTINGS | 32 | 75 |
| SLAB-ON-GROUND | 32 | 65 |
| COLUMNS | 40 | 80 |
| WALLS | 40 | 85 |
| SUSPENDED SLABS & BEAMS | 32 | 80 |
| MASS CONCRETE | 15 | - |
- C3 CONCRETE SHALL BE CURED BY AN APPROVED METHOD FOR AT LEAST 7 DAYS AFTER PLACEMENT.
- C4 CONCRETE SHALL BE COMPACTED USING MECHANICAL VIBRATION.
- C5 VIBRATION OF FORMS IS NOT ACCEPTABLE AND CONCRETE SHALL NOT BE SPREAD BY VIBRATING.
- C6 CONCRETE SECTIONS SHOWN ARE MINIMUM SIZES AND DO NOT INCLUDE FINISHES. SIZES SHALL NOT BE REDUCED IN ANY WAY OR HOLES FORMED OR MADE IN

- C7 DEPTH OF BEAMS ARE GIVEN FIRST AND INCLUDE SLAB THICKNESS
- C8 SLABS AND BEAMS ARE TO BE POURED CONCURRENTLY U.N.O. AND FINISHED WITH A STEEL FLOAT.
- C9 MINIMUM COVER TO ALL REINFORCEMENT INCLUDING FITMENTS SHALL BE AS FOLLOWS, U.N.O:

ELEMENT	FORMED AND NOT EXPOSED TO WEATHER	FORMED ON GROUND & EXPOSED TO WEATHER	NOT FORMED. CAST AGAINST GROUND
INSITU COLUMN & PEDESTALS	40	50	75
INSITU BEAMS	40	50	65
FOOTINGS	-	50	75
PIERS	-	50	75
SLABS ON GROUND	30	30	65
SUSPENDED SLABS	30	30	65
INSITU WALLS	30	30	65
PRECAST WALLS	30	30	65
UNDERPINNING	-	50	75

- C10 REINFORCEMENT IS SHOWN DIAGRAMMATICALLY AND NOT IN TRUE PROJECTION.
- C11 SYMBOLS ON THE DRAWING FOR REINFORCEMENT ARE AS FOLLOWS:
Y GRADE 400MPa DEFORMED REINFORCING BARS TO AS1302
N GRADE 500MPa DEFORMED REINFORCING BARS, DUCTILITY CLASS N TO AS 4671
R GRADE 250MPa PLAIN REINFORCING BARS TO AS1302
W HARD-DRAWN STEEL REINFORCING WIRE, GRADE 500 DUCTILITY CLASS L TO AS 4671
TM HARD-DRAWN STEEL TRENCH MESH, GRADE 500 DUCTILITY CLASS L TO AS 4671
RL RECTANGULAR RIB MESH GRADE 500 DUCTILITY CLASS L TO AS 4671
SL SQUARE RIB MESH GRADE 500 DUCTILITY CLASS L TO AS 4671
- C12 ALL REINFORCEMENT AND INSERTS SHALL BE SUPPORTED AND HELD IN THE DESIGN LOCATION BY APPROVED BAR CHAIRS, SPACERS OR TIES. BAR CHAIRS SHALL BE PLACED AT MINIMUM 1000 CENTRES IN TWO DIRECTIONS U.N.O.
- C13 WELDING AND THREADING OF REINFORCEMENT IS NOT PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.
- C14 REINFORCEMENT SHALL BE EVENLY DISTRIBUTED OVER THE WIDTHS SHOWN U.N.O.
- C15 PROVIDE 2-N12 x 1200 BARS DIAGONALLY ACROSS RE-ENTRANT CORNERS OF SLABS, TIED UNDER THE TOP FABRIC. U.N.O.
- C16 AT SLAB EDGES INCLUDING CONSTRUCTION AND OTHER JOINTS, AT LEAST ONE REINFORCING BAR OR FABRIC WIRE SHALL BE LOCATED PARALLEL TO AND WITHIN 75mm OF THE SLAB EDGE.
- C17 CONSTRUCTION JOINTS SHALL BE PROPERLY FORMED AND USED ONLY WHERE APPROVED OR PERMITTED BY THE ENGINEER.
- C18 SAWN JOINTS SHALL BE MADE AT A TIME APPROPRIATE TO THE CONCRETE MIX AND CLIMATIC CONDITIONS, GENERALLY BETWEEN 10 AND 20 HOURS OF PLACING THE CONCRETE.
- C19 LAP LENGTHS AND COG LENGTHS ARE AS FOLLOWS:

BAR SIZE	LAP LENGTH	LAP LENGTH	COG LENGTH
	ELEMENTS < 300 DEPTH / HEIGHT	ELEMENTS > 300 DEPTH / HEIGHT	
N10	400	500	170
N12	450	600	190
N16	700	900	220
N20	950	1200	260
N24	1200	1600	320
N28	1500	1950	370
N32	1800	2300	420
N36	2100	2700	470

REV	STATUS	DESIGNED	CHECKED	DATE	 Barrason's Group E: info@barrasons.com.au T: (03) 5940 4999 W: www.barrasons.com.au	TITLE: GENERAL NOTES-1	PROJECT ADDRESS: 13 POWELL PLACE, PAKENHAM, VIC 3810	JOB No: 25030303	DESIGNED: A.A.	DWG No:	S001	FOR CONSTRUCTION
A	FOR CONSTRUCTION	J.J.	A.B.	07/07/2025				CLIENT: MEENO	CHECKED: M.C.			
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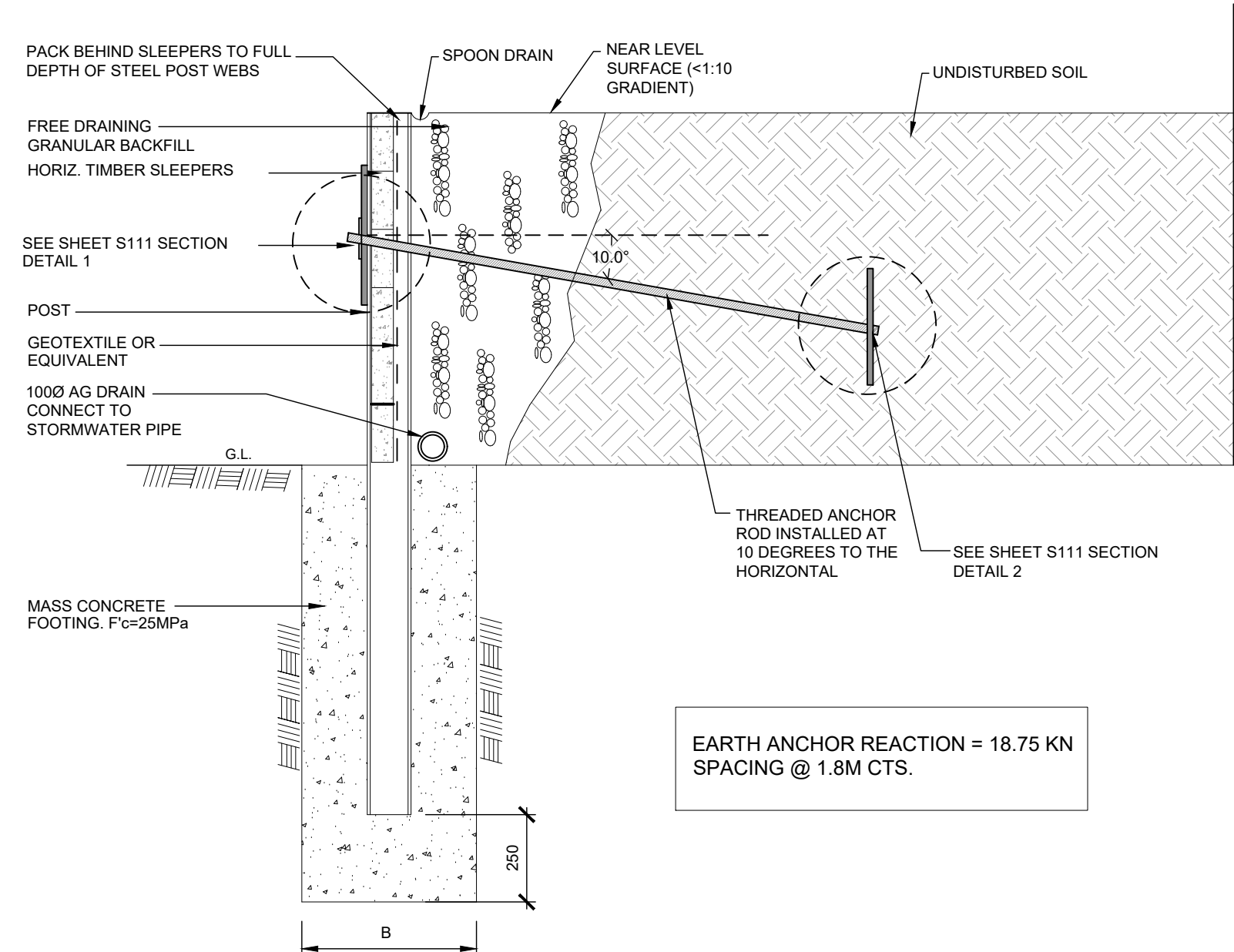
C20	STRIPPING OF FORMS AND REMOVAL OF FORMWORK SHALL TAKE PLACE IN ACCORDANCE WITH A PROCEDURE AGREED TO BY THE ENGINEER.	M16	NON-LOADBEARING WALLS SHALL BE KEPT 20mm CLEAR OF THE UNDERSIDE OF FLOORS AND SHELF ANGLES.	S9	ALL HIGH-STRENGTH STRUCTURAL BOLTS SHALL BE M20 GRADE 8.8/S U.N.O. IN ACCORDANCE WITH AS 1252	S31	PROTECTIVE COATINGS TO INTERNAL STEELWORK (U.N.O.): PREPARATION: CLASS 2A ABRASIVE BLAST COATING: FIRST COAT INORGANIC ZINC SILICATE 75 DRY FILM THICKNESS SECOND COAT ACRYLIC PAINT 50 DRY FILM THICKNESS THIRD COAT ACRYLIC PAINT 50 DRY FILM THICKNESS CONCRETE ENCASED AND FIRE-SPRAYED MEMBERS, AND FRICTION-GRIP BOLTED CONNECTIONS MUST NOT BE PAINTED. U.N.O.	T8	ALL PROPRIETARY FIXINGS SHALL BE INSTALLED TO DEVELOP THEIR MAXIMUM CAPACITY AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. CONNECTORS USED IN EXPOSED OR AGGRESSIVE ENVIROMENT ARE TO BE TREATED WITH AN APPROVED PROTECTIVE COATING
C21	CONCRETE MUST BE SEPARATED FROM SUPPORTING MASONRY WORK BY TWO LAYERS OF A SUITABLE DE-BONDING MEMBRANE.	M17	AT VERTICAL CONTROL JOINTS PROVIDE MASONRY FLEXIBLE ANCHORS TYPE MFA 3/3 AT 600mm MAX. CENTRES, INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. JOINTS ARE TO BE 20mm WIDE WITH A 25mm DIA. CLOSED-CELL POLYETHYLENE FOAM BACKING ROD AND POLYSULPHIDE BASE CAULKING SEALANT TO THE EXTERNAL FACE UNLESS NOTED OTHERWISE. IN ADDITION, THE JOINT CONSTRUCTION MUST SATISFY REQUIREMENTS FOR: 1. FIRE RATING 2. SOUND INSULATION 3. WATERPROOFING AS SPECIFIED BY THE ARCHITECT. THE CONTROL JOINTS ARE TO BE AT 6000mm MAXIMUM CENTRES.	S10	HOLDING-DOWN BOLTS SHALL BE M20 GRADE 4.6/S, GALVANISED U.N.O	S32	COATINGS DAMAGED DURING TRANSPORT AND ERECTION OR BY WELDING SHALL BE MADE GOOD AFTER BEING WIRE-BRUSHED CLEAN, AND RECOATED AS ABOVE.	T9	ALL TIMBER FRAMEWORK SHALL BE ADEQUATELY TIED TO RESIST UPLIFT AND RACKING FORCES IN ACCORDANCE WITH AS 1684. ALL MEMBERS BETWEEN THE ROOF AND THE FOUNDATIONS ARE TO BE ADEQUATELY CONNECTED TO EACH OTHER.
C22	SUSPENDED SLABS SHALL BE GIVEN AN UPWARD MID-SPAN CAMBER OF 3mm PER 1000mm U.N.O. BEAMS SHALL BE AS SHOWN ON DRAWINGS.			S11	BOLTS MUST BE OF SUFFICIENT LENGTH TO HAVE AT LEAST ONE FULL THREAD EXPOSED AFTER TIGHTENING	S33	REFER TO ARCHITECTURAL DRAWINGS FOR ALL ADDITIONAL PLATES, ANGLES ETC. AS REQUIRED FOR FIXINGS TO INTERNAL PARTITIONS, BLOCKING, WINDOW FRAMES, ARCHITECTURAL FEATURES ETC	T10	THE BUILDER SHALL SUBMIT TO THE BUILDING SURVEYOR 3 SETS OF THE TRUSS MANUFACTURER'S LAYOUT DRAWINGS AND COMPUTATIONS FOR BUILDING APPROVAL PRIOR TO COMMENCEMENT OF FABRICATION.
C23	SPLICES IN REINFORCEMENT SHALL BE MADE IN THE POSITIONS SHOWN ON THE DRAWINGS OR AS OTHERWISE APPROVED BY THE ENGINEER.			S12	BOLTS IN OVERSIZE OR SLOTTED HOLES ARE TO HAVE SUITABLE LARGER SIZE WASHERS	S34	PROVIDE ALL NECESSARY TRIMMING ANGLES AND FIXINGS TO SUPPORT CLADDING AND FLASHINGS AT ROOF OR WALL INTERSECTIONS	T11	METAL FIXINGS SHALL BE COMPATIBLE WITH TIMBER GLUES AND PRESERVATIVE TREATMENTS.
C24	HOLDING-DOWN BOLTS SHALL BE SUPPLIED TO THE CONCRETOR FOR CASTING INTO THE CONCRETE AND SHALL BE INSTALLED IN ACCORDANCE WITH THE STEEL HOLDING-DOWN BOLT PLAN.			S13	CONNECTIONS NOT SPECIFICALLY DETAILED SHALL BE IN ACCORDANCE WITH THE APPROPRIATE CONNECTION AS DETAILED IN THE AISC STANDARDISED STRUCTURAL CONNECTIONS MANUAL.	S35	PROVIDE ALL NECESSARY SUBFRAMES AND TRIMMERS FOR MECHANICAL AND ELECTRICAL EQUIPMENT AND ARCHITECTURAL FEATURES	T12	NO PENETRATIONS OR CHASES OTHER THAN THOSE SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE MADE IN TIMBER MEMBERS WITHOUT PRIOR APPROVAL OF THE ENGINEER.
MASONRY:		M18	WHERE NON LOAD BEARING WALLS ABUT THE UNDERSIDE OF HORIZONTAL OR RAKING MEMBERS (SLABS, STEEL OR CONCRETE BEAMS) PROVIDE MASONRY FLEXIBLE ANCHORS, TYPE MFA4 TO EVERY THIRD PERPEND, FIXED TO THE STRUCTURAL MEMBER WITH RAMSET 6mm DIA. HEAD-DRIVE PINS OR SIMILAR. PROVIDE 10mm CLOSED-CELL POLYETHYLENE FOAM BACKING RODS BETWEEN THE WALL AND THE MEMBER.	S14	UNLESS NOTED OTHERWISE CONNECTIONS BETWEEN 2 STRUCTURAL STEEL MEMBERS ARE TO HAVE MINIMUM 2M20 8.8/S BOLTS IN 220mm HOLES			T13	NOTCHING OF RAFTERS IS PERMITTED UP TO D/3 FROM THE TOP, OR D/4 FROM THE BOTTOM AT ENDS OF SIMPLY SUPPORTED MEMBERS.
M1	ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3700 AND AS 4455.			S15	BOLT TYPES AND BOLTING PROCEDURE ARE DESIGNATED AS FOLLOWS 4.6/S - COMMERCIAL BOLTS TO AS 1111, SNUG TIGHTENED 8.8/S - HIGH STRENGTH STRUCTURAL BOLTS, NUTS AND HARDENED WASHERS TO AS 1252, SNUG TIGHTENED 8.8/TB - HIGH STRENGTH STRUCTURAL BOLTS AS ABOVE, FULLY TENSIONED TO AS 1511 IN A BEARING TYPE JOINT 8.8/TF - HIGH STRENGTH STRUCTURAL BOLTS AS ABOVE, FULLY TENSIONED TO AS 1511 IN A FRICTION TYPE JOINT			T14	NOTCHING OF CANTILEVERED MEMBERS AT SUPPORTS MUST COMPLY WITH AS 1684 (ie. BIRDMOUTHS)
M2	CLAY BRICKS SHALL HAVE A CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF 30MPa U.N.O. SOLID CONCRETE BRICKS SHALL HAVE A CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF 10MPa U.N.O.	M19	WHERE MASONRY WALLS INTERSECT STRUCTURAL MEMBERS (STEEL OR CONCRETE), PROVIDE MASONRY FLEXIBLE ANCHORS TYPE MFAT AT 600 MAX. CENTRES EMBEDDED IN THE MASONRY WALL AND FIXED TO THE MEMBER WITH 6mm DIA. HEAD RAMSET DRIVE-PINS. MFA7 TIES SHALL BE 200mm LONG x 50mm TURNDOWN. TIES TO OUTER SKIN SHALL INCORPORATE A DRIP GROOVE.	S16	FULLY TENSIONED BOLTS ARE TO BE INITIALLY SNUG TIGHTENED, CONNECTING PLATES ADJUSTED TO FULL CONTACT, THEN TIGHTEN BOLTS TO AN ADDITIONAL HALF TURN IN ACCORDANCE WITH AS 4100 ALTERNATIVELY PROVIDE LOAD INDICATING WASHERS AND INSTALL CONNECTIONS IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND AS 4100			T15	NOTCHING OF BEAMS IS NOT PERMITTED.
M3	HOLLOW AND CORED CONCRETE BLOCKS SHALL HAVE A CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH OF 15MPa U.N.O.	M20	FOR WALLS WITH A CAVITY WIDTH BETWEEN 80mm TO 140mm PROVIDE MASONRY FLEXIBLE ANCHOR 'ANCHOR -TIES' AT 430mm VERTICAL AND 600mm HORIZONTAL CTS.	S17	ALL CLEAT PLATES AND STIFFENERS SHALL BE 10mm THICK U.N.O.			T16	PLYWOOD WALL BRACING AND TENSIONED HOOP-IRON CROSS BRACING IS TO COMPLY WITH AS 1684. STUDS ARE NOT TO BE NOTCHED FOR BRACING.
M4	MORTAR SHALL BE AS FOLLOWS: LOAD BEARING WALLS = 1 PART CEMENT AND 5 PARTS WELL GRADED SAND PLUS WATER THICKENER (CELLULOSE BASED) NON LOAD BEARING WALLS = 1 PART CEMENT 1 PART HYDRATED LIME AND 6 PARTS WELL GRADED SAND	M21	CONCRETE BEAMS AND SLABS SHALL BE SEPARATED FROM SUPPORTING MASONRY BY 2 LAYERS OF MALTHOID OR SIMILAR APPROVED MEMBRANE ON TOP OF MORTAR LEVELLING SCREED.	S18	THE ENDS OF ALL TUBULAR MEMBERS SHALL BE SEALED WITH A 3mm PLATE U.N.O.			T17	ROOF BRACING SHALL COMPLY WITH AS 1684.
M5	LOAD BEARING MASONRY SHALL HAVE FULL-BED JOINTS, U.N.O.	M22	THE BUILDER SHALL PROVIDE DETAILS AND PROCEDURES OF NEEDLE AND PROPPING TO OPENINGS IN MASONRY WALLS FOR APPROVAL BEFORE WORK COMMENCES.	S19	TUBULAR MEMBERS TO BE GALVANISED SHALL BE ADEQUATELY VENTED.			T18	RAFTERS OR FLOOR JOISTS BUTTING INTO SIDES OF TIMBER BEAMS ARE TO BE CONNECTED USING 'PRYDA' FRAMING BRACKETS OR 'PRYDA' MULTIGRIPS TO EACH SIDE OF THE MEMBER.
M6	MASONRY TIES FOR CAVITY WALLS SHALL BE MEDIUM DUTY GRADE, SPACED AT NOT MORE THAN 600mm CENTRES VERTICALLY AND HORIZONTALLY. TIES FOR VENEER WALLS SHALL BE LIGHT DUTY GRADE SPACED AT NOT MORE THAN 450mm CENTRES VERTICALLY AND HORIZONTALLY. ADDITIONAL TIES SHALL BE PLACED ADJACENT TO LATERAL SUPPORTS, CONTROL JOINTS AND AROUND OPENINGS AT A SPACING OF NOT MORE THAN 300mm, AND LOCATED NOT MORE THAN 300mm FROM THE LINE OF SUPPORT, CONTROL JOINT OR PERIMETER OF OPENING. CHARACTERISTIC STRENGTH OF TIES ARE TO BE RATED FOR THE APPROPRIATE CAVITY WIDTH	M23	WHERE MASONRY WALLS ARE TO BE CONSTRUCTED ON SUSPENDED SLABS, STACK MASONRY UNITS TO BE USED IN THE WALL AS NEAR AS POSSIBLE TO THE FINAL POSITION OF THE WALL. NO UNITS ARE TO BE STACKED ON SUSPENDED CONCRETE WORKS UNTIL ALL PROPS HAVE BEEN REMOVED. THE STACKED LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD AS SET OUT IN THE GENERAL NOTES. NO MASONRY UNITS ARE TO BE STACKED ON CANTILEVERED SLABS.	S20	PURLINS AND GIRTS INCLUDING LATERAL AND BUCKLING RESTRAINING MEMBERS SUCH AS BRIDGING, STRUTS AND TIE RODS SHALL BE IN ACCORDANCE WITH AS/NZS 4600, GALVANISED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS			T19	WHERE ROOF LIGHTS OR OTHER INSTALLATIONS PENETRATE THE ROOF FRAMING, TRIM EACH SIDE OF THE OPENING WITH DOUBLE RAFTERS TO MAINTAIN AVERAGE RAFTER SPACING. USE TRIMMER RAFTERS TO ADJACENT SIDES TO TRANSFER LOADS TO CONTINUOUS RAFTERS.
M7	MASONRY SHALL BE TIED TO COLUMNS AT 400 MAXIMUM VERTICAL CENTRES.	M24	NON LOAD BEARING AAC BLOCK WALLS TO BE INSTALLED IN ACCORDANCE WITH BLOCK MANUFACTURERS RECOMMENDATIONS	S21	BEFORE COMMENCING FABRICATION 3 COPIES OF THE SHOP DRAWINGS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. THIS REVIEW DOES NOT INCLUDE CHECKING OF DIMENSIONS.			T20	FOOTINGS TO TIMBER POSTS SUPPORTING PERGOLA FRAMING SHALL BE 350x350x400mm DEEP MINIMUM MASS CONCRETE. POSTS ARE TO BE SUPPORTED 50mm CLEAR OF THE FINISHED GROUND LEVEL ON STANDARD GALVANISED STEEL STIRRUPS.
M8	NEW MASONRY SHALL BE TIED INTO EXISTING USING MEDIUM DUTY TIES AT 400mm MAXIMUM VERTICAL CENTRES ALONG ALL VERTICAL EDGES, AND AT 600 MAXIMUM HORIZONTAL CENTRES U.N.O.			S22	CAMBER SHALL BE AS NOTED ON THE DRAWINGS.			T21	WHERE ISOLATED INTERNAL POSTS ARE SUPPORTED ON A SLAB-ON-GROUND, INVERTED STEEL 'T' BRACKETS ARE TO BE FIXED TO THE SLAB WITH EXPANSION ANCHORS, AND THE POST FIXED TO THE BRACKET WITH 2-M10 COACH BOLTS. PROVIDE FLAT STEEL WASHERS UNDER NUTS.
M9	MASONRY TIES ARE TO BE GALVANISED TO RATING R2 IN ACCORDANCE WITH AS 3700 AND AS 2699.			S23	STRUCTURAL STEEL TO BE CONCRETE ENCASED SHALL BE WRAPPED WITH F41 MESH. THE GAP BETWEEN THE STRUCTURAL STEEL AND THE MESH AND AND THE THE EXTERNAL COVER TO THE MESH SHALL BE 25mm AND 50mm RESPECTIVELY.			T22	UNLESS NOTED OTHERWISE PROVIDE DOUBLE STUDS TO EACH END OF LINTELS AND BEAMS. DOUBLE STUDS TO BE OF MINIMUM SECTION 2/90x45 LAMINATED IN ACCORDANCE WITH THE TIMBER FRAMING MANUAL AND AS 1684. LESSER MEMBER SIZES MAY ONLY BE USED IF COMPLIANT WITH THESE CODES. CONTINUE DOUBLE STUDS TO LOWER LEVELS TO CARRY MAJOR POINT LOADS TO FOUNDATIONS
M10	TIES BETWEEN LEAVES OF MASONRY FORMING SOLID WALLS OR ENGAGED PIERS SHALL BE MEDIUM DUTY, AND SPACED AT 400mm MAXIMUM CENTRES IN EACH DIRECTION.			S24	ALL BOLTS AND STRUCTURAL STEEL EXPOSED TO THE WEATHER SHALL BE HOT-DIP GALVANISED U.N.O. PAINT SYSTEMS TO GALVANISED STEEL TO BE AS SPECIFIED BY THE ARCHITECT			T23	PROVIDE 20mm MIN CLEARANCE TO UNDERSIDE OF ROOF TRUSSES OR FLOOR JOISTS FOR NON-LOAD BEARING STUD WALL.
M11	FOR DOOR OPENINGS NOT EXCEEDING 1000mm WIDE IN NON-LOADBEARING WALLS, PROVIDE A 100x10 GALVANISED STEEL PLATE LINTEL WITH 75mm MINIMUM END BEARING TO EACH END.			S25	ALL STEEL LINTELS SUPPORTING MASONRY EXPOSED TO THE WEATHER SHALL BE HOT-DIP GALVANISED.			TREE(S) OWNER/BUILDER TO PROVIDE CONCRETE BLINDING 15MPa AS ROOT BARRIER UNDER FOOTINGS (within zone of influence of 1 x tree matured height) TO BE FOUNDED ON WEATHERED BEDROCK OR 2000mm DEEP MIN. FROM GROUND LEVEL (WHICH EVER IS SHALLOWER) IF TREES EXIST OR EXPECTED. ALTERNATIVELY, PROVIDE ROOT BARRIER AS SHOWN IN DETAIL IN S101	
M12	FOR DOOR OPENINGS OF 1000-1800mm WIDE IN NON-LOADBEARING WALLS, PROVIDE A GALVANISED STEEL 100x10 EA LINTEL WITH 75mm MINIMUM END BEARING TO EACH END.			S26	PROVIDE ALL NECESSARY CLEATS AND HOLES REQUIRED TO FIX TIMBER AND OTHER MATERIALS AND FINISHES TO THE STEELWORK.				
M13	ALL CAVITIES BELOW GROUND LEVEL SHALL BE MORTAR OR GROUT FILLED.			S27	LINTELS SHALL NOT BE PROPPED DURING LOAD APPLICATION U.N.O.				
M14	VERTICAL CONTROL JOINTS SHALL COMPLY WITH TECHNICAL NOTE No. 61 OF THE CEMENT AND CONCRETE ASSOCIATION OF AUSTRALIA AND SHALL BE LOCATED AS DESCRIBED IN THAT PUBLICATION OR AS SHOWN ON THE DRAWINGS. JOINTS SHALL BE KEPT FREE OF NON-COMPRESSIBLE MATERIAL.			S28	THE CONTRACTOR SHALL PROVIDE AND LEAVE IN PLACE UNTIL PERMANENT BRACING ELEMENTS ARE CONSTRUCTED, SUCH TEMPORARY BRACING AS IS NECESSARY TO ADEQUATELY STABILIZE THE STRUCTURE DURING ERECTION.				
				S29	PROVIDE 150mm MINIMUM END BEARING WITH 20mm NOM. LEVELLING GROUT U.N.O. TO STEELWORK SEATED ON MASONRY. CHARACTERISTIC COMPRESSIVE STRENGTH OF GROUT IS 30MPa				
M15	ALL STEELWORK PROJECTING INTO CAVITIES SHALL BE HOT-DIP GALVANIZED U.N.O. ALL STEEL LINTELS EXPOSED TO WEATHER SHALL BE HOT-DIP GALVANIZED U.N.O.			S30	SUPPORT ROOF BRACING FROM EVERY SECOND PURLIN WITH HOOK BOLTS				

REV	STATUS	DESIGNED	CHECKED	DATE	BG	Barrason's Group E: info@barrasons.com.au T: (03) 5940 4999 W: www.barrasons.com.au	TITLE: GENERAL NOTES-2	PROJECT ADDRESS: 13 POWELL PLACE, PAKENHAM, VIC 3810	JOB No: 25030303	DESIGNED: A.A.	DWG No:	S002	FOR CONSTRUCTION
A	FOR CONSTRUCTION	J.J.	A.B.	07/07/2025									
B	FOR CONSTRUCTION	A.A.	M.C.	14/04/2026						CHECKED: M.C.			
										APPROVED: A.B.			
										REVISION:		B	

EARTH ANCHOR SYSTEM INSTALLATION:

1. MARK THE AREA OF THE WALL WHERE A SMALL HOLE 28mm IN DIAMETER WILL BE CORED. THE EARTH ANCHOR SYSTEM SHOULD BE SPACED AT A MAXIMUM DISTANCE OF 1m FROM THE CORNERS AND AT 2m CENTRES BETWEEN EACH PLATE.
2. ON THE RETAINED SIDE, EXCAVATE AT A DISTANCE OF 4m FROM THE EXTERNAL WALL FACE AND DIG HOLES 300mm IN DIAMETER AND 1.27m DEEP AT THE LOCATIONS WHERE THE EARTH ANCHORS ARE TO BE EMBEDDED.
3. STEEL ANCHOR RODS WILL BE DRIVEN THROUGH THE WALL AND SOIL AT A MINIMUM ANGLE OF 10 DEGREES RELATIVE TO THE HORIZONTAL, EXTENDING TO THE EXCAVATED HOLE ON THE RETAINED SIDE.
4. EMBED THE EARTH ANCHOR PLATE AT THE EXCAVATED HOLE LOCATIONS AND PLACE ONTO THE THREADED ROD END. TIGHTEN THE ROD ONTO THE PLATE BY INSTALLING AN ANCHOR NUT. (SHEET S111 SECTION 2)
5. BEFORE ATTACHING THE PLATE TO THE EXPOSED RETAINING WALL FACE, INSTALL A WALL SLEEVE OVER THE ROD AND PLACE WAX TO SEAL OFF THE WALL. (SHEET S111 SECTION 1)
6. MOUNT THE WALL PLATE ON THE ANCHOR ROD END AT THE EXPOSED RETAINING WALL SIDE. SCREW WITH LARGE NUT AND WASHER TO THE THREADED END OF THE ROD TO SECURE AND TIGHTEN TO THE WALL. CUT THE EXCESS ROD LENGTH AND PLACE A ROD CAP AT THE ENDS.
7. PLACE BACKFILL SOIL OVER EXCAVATED HOLES TO INITIAL GROUND LEVEL.

NOTE:
PRIOR TO THE COMMENCEMENT OF WORKS, CONFIRM
EASEMENT LOCATIONS AND ALL NEARBY PROPERTY ASSETS
AT THE SUBJECT PROPERTY.



STABILISATION OF LEANING RETAINING WALL WITH
EARTH ANCHORS

REV	STATUS	DESIGNED	CHECKED	DATE
A	FOR CONSTRUCTION	J.J.	A.B.	07/07/2025
B	FOR CONSTRUCTION	A.A.	M.C.	14/04/2026



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TITLE:
EARTH ANCHORS DESIGN FOR RETAINING
WALL

PROJECT ADDRESS:
13 POWELL PLACE, PAKENHAM, VIC 3810

JOB No: 25030303
CLIENT: MEENO
SCALE: 1:100 @A3

DESIGNED: A.A.
CHECKED: M.C.
APPROVED: A.B.

DWG No:
REVISION:

S101
B

FOR
CONSTRUCTION

